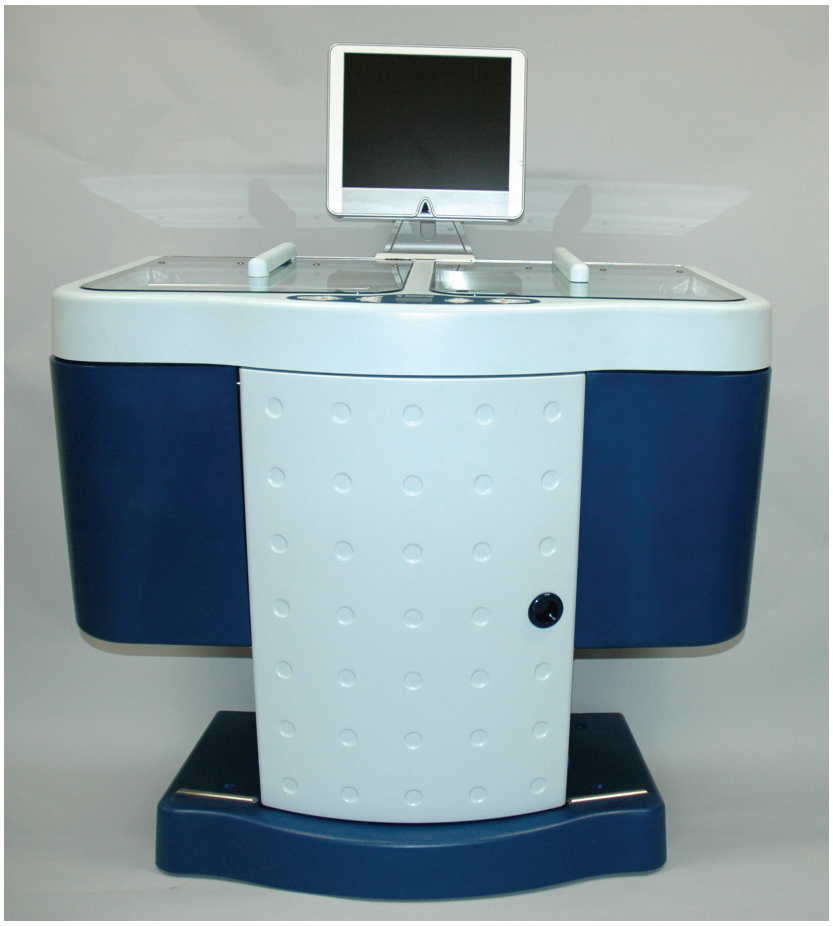
MEDIVATORS

ADVANTAGE™ PLUS

ENDOSCOPE REPROCESSOR

SITE REQUIREMENTS AND INSTALLATION INSTRUCTIONS



50096-927 Rev A

MEDIVATORS®
REPROCESSING SYSTEMS

SITE REQUIREMENTS

The purpose of this section is to provide the customer with requirements that need to be met to ensure the ADVANTAGE Plus will be properly installed.

Applicable Documents

- ADVANTAGE Plus Site ID Form (Document Number 50092-380)
- ADVANTAGE Plus User Manual

It is the responsibility of the customer to meet these requirements to ensure proper installation of the ADVANTAGE Plus.

The ADVANTAGE Plus will be delivered on a pallet along with multiple boxes. It is important to keep all the boxes received with the ADVANTAGE Plus together.

It is the responsibility of the customer to provide qualified personnel to provide the connections for the ADVANTAGE Plus to the building supply (Water, Electrical, Drain, Air and Network/Internet) during the installation process.

Any deviation from these specifications may cause operational issues that would not be covered by the Warranty.

1. Water Supply

- The water supply must be connected to a mixer valve providing a water temperature of 95º F (35º C).
- The incoming waterline must be a minimum of ½" ID providing a flow rate of 3.2 GPM and a water pressure of 40 to 87 PSI.
- Ensure water hardness is less than 12 gpg (200 ppm) for optimal performance.
- The pre-filter assembly is wall mounted and has the dimensions of 26" H x 38" W x 6" D and must be located within 3 feet of the ADVANTAGE Plus. The incoming water connection to the pre-filter assembly is ½" NPT on the right hand side. All fittings and hoses for the output of the pre-filter assembly are included.
- A shut-off valve must be installed before the pre-filtration system. It is important that the valve be mounted within reach of the operator.
- It is highly recommended that the facility water be analyzed to determine if the supplied pre-filter is adequate. Contact your Medivators Representative or Technical Support to arrange for water analysis.

2. Drain

- A drain system capable of draining 5 GPM, less than 18" from the floor and vented will ensure the proper operation of the ADVANTAGE Plus. The supplied drain line has a 1" OD.

3. Air Supply

- The ADVANTAGE Plus system utilizes medical grade house air (dry, oil free). If this is not available, an optional Air Compressor kit will need to be ordered with the ADVANTAGE Plus.
- Required air pressure is 45 to 145 PSI with a minimum flow volume of 1.5 CFM.
- A ¼" ID flexible air hose (EPDM, braided, 150 psi minimum) is required to connect the ADVANTAGE Plus to the house air. This is not supplied with the ADVANTAGE Plus. The hose connects to a barbed fitting on the back of the ADVANTAGE Plus.

4. Electrical Supply

- 240 VAC ± 10%, single phase, 60 HZ, 10 A
- A GFI protected outlet (NEMA 6-15R) should be located within the operator's reach.

NOTE:	It is recommended to install a surge protector to protect the ADVANTAGE Plus from power fluctuations, voltage spikes etc.

5. Ventilation

It is the Customer's Responsibility to ensure the room is in compliance with this requirement. This is not a requirement of the ADVANTAGE Plus but of the chemicals that are used for disinfection.

- It is a health and safety requirement to have 10 to 12 air changes per hour in the room. During cycle operation and the chemical heating process, chemical vapor may be produced. The air exchange will minimize staff exposure to chemical vapors.
- A 4" flexible duct may be connected from the back of the ADVANTAGE Plus to the facilities exhaust system to aid in fume extraction.
- The ADVANTAGE Plus may also be supplied with an active vapor management system to aid in chemical vapor management. Please refer to the purchase order to determine the correct configuration of the ADVANTAGE Plus.

6. Dimensions

- The ADVANTAGE Plus physical dimensions are 59” H x 48” W x 36” D, weight 400 LBS.
- If the optional air compressor is installed, the ADVANTAGE Plus will need an additional 5.25” at the back of the unit.
- If the active vapor management system is installed, the ADVANTAGE Plus will need an additional 2” at the back of the unit.
- Space is required on either side of the unit (approximately a combined 12”) for easy access to the internal components. If this is not available, the ADVANTAGE Plus contains a base with casters allowing the system to be moved. There should be adequate room for the ADVANTAGE Plus to be moved for access to accommodate maintenance.

7. Endoscope and User Information

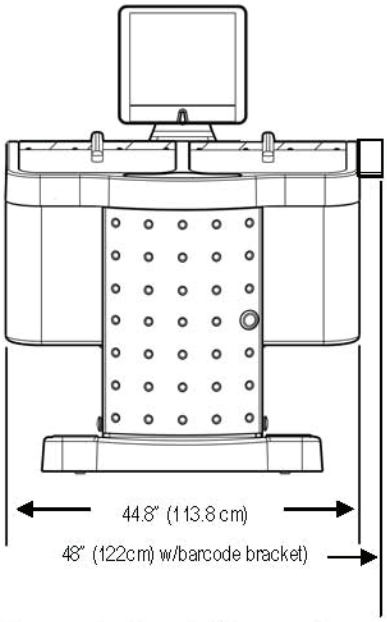
- To ensure a smooth and trouble-free installation, the customer must supply a complete list of users and endoscopes that will be reprocessed in the ADVANTAGE Plus.
- Fill out the ADVANTAGE Plus Site ID Form (Document Number 50092-380).

8. Network/Remote Access

- The ADVANTAGE Plus is equipped with a PC based computer running Windows XP which will allow full networking along with the capability of remote diagnostics.
- To allow remote diagnostics an internet connection would be required, highly recommended.

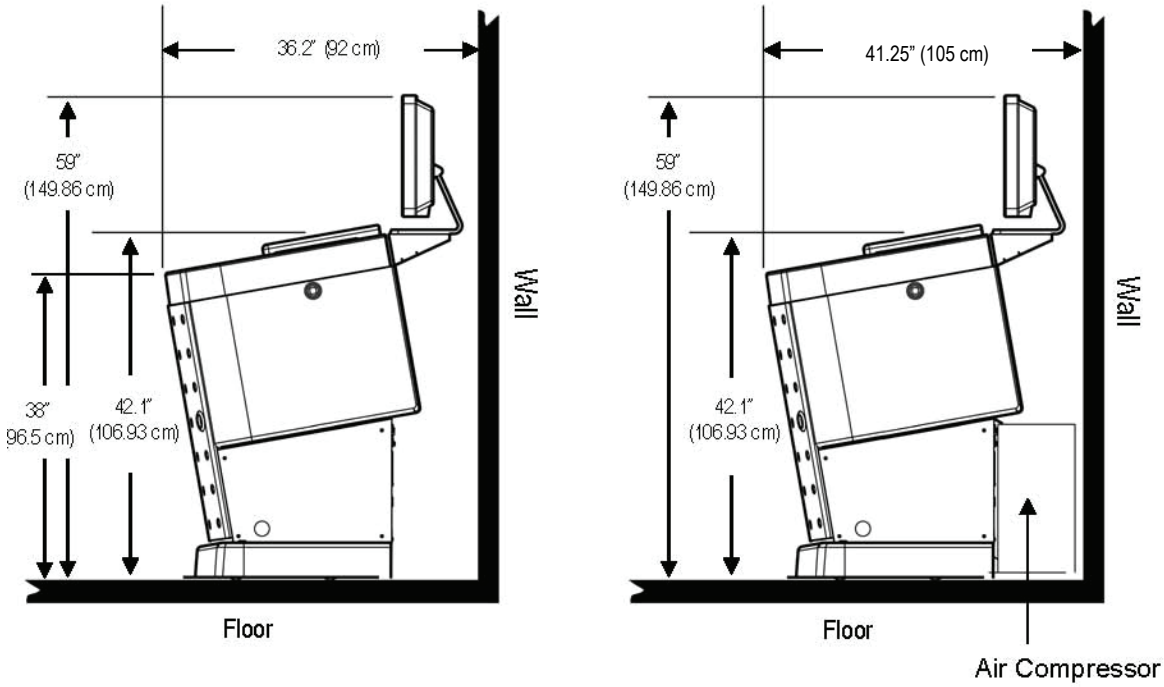
The ADVANTAGE Plus Site Requirement Checklist is utilized to ensure the installation site meets the required specifications. If all requirements are met, the site is suitable for the installation of the ADVANTAGE Plus.

Dimensions and Clearances



Note: Add 3" to the width for the barcode stand

Figure 1 Front Dimensions



ADVANTAGE PLUS SITE REQUIREMENTS AND INSTALLATION INSTRUCTIONS

This checklist should be utilized to ensure the installation site meets the required specifications. If all specifications are met, the site is suitable for the installation and use of the Medivators Advantage Plus Automated Endoscope Reprocessor.

SITE REQUIREMENTS

Water Supply	Minimum flow rate of 3.2 GPM with a pressure of 40 to 87 PSI	
	Water Temperature 95ºF (35ºC)	
	Hardness , less than 12 gpg (200ppm).	
	Pre-Filter wall space 26”H x 38” W x 6” D, within 3 feet of the ADVANTAGE Plus	
Drain	5 GPM, less than 18” from the floor, vented	
Air Supply	Medical grade house air 45 to 125 PSI, minimum flow volume of 1.5 CFM	
	Optional air compressor available, adds 5.25” to depth of unit	
Electrical Supply	240 VAC ±10%, single phase, 60 Hz, 10 A	
	NEMA 6-15R outlet GFI protected, accessible by user	
Ventilation	10 to 12 room air exchanges per hour	
	Optional ventilation system available, 110 VAC, adds 2” to depth of unit	
Unit Dimensions	59” H x 48” W x 36” D, 400 LBS	
	Add 12” of open space to the total width to aid with service access	
Endoscope List	ADVANTAGE Site ID Form (50092-380) completed	
Remote Access	Internet connection (optional)	

INSTALLATION INSTRUCTIONS

The purpose of this document is to provide the requirements that need to be met for the proper installation of the ADVANTAGE Plus.

Applicable Documents

- ADVANTAGE Plus Site ID Form (PN 50092-380)
- ADVANTAGE Plus User Manual

Packages

- ADVANTAGE Plus
- Computer box
- Pre-filter
- Installation Kit
- Air Compressor (optional)
- Vapor Management System (optional)
- Printer (optional)

Additional Items Needed

- Blank writable CD

Pre-installation criteria must be met to ensure proper operation of the ADVANTAGE Plus. It is the responsibility of the customer to provided qualified personnel to connect the ADVANTAGE Plus to the building supply during the installation process.

INSTALLATION

Unpacking

Move the ADVANTAGE Plus and additional boxes to a suitable location for unpacking and ensure all of the boxes are accounted for. Remove the packaging around the ADVANTAGE Plus , unlatch the base from the pallet, and using the supplied cardboard ramps carefully remove the ADVANTAGE Plus from the pallet. Leave the base cover off until instructed to install.

Assembly

Before assembly, move the ADVANTAGE Plus to the installation site. Once assembled the ADVANTAGE Plus will not fit through standard door ways.

1. **Base Cover**

   Place the base cover on the base of the ADVANTAGE Plus. Align the screw holes in the cover with the base and use the 4 screws to secure.

2. **Computer**

   Computer Mount

   - Locate the computer mount in the computer box.
   - Remover the upper panel on the back of the ADVANTAGE Plus.
   - The computer mount attaches to the back of the ADVANTAGE Plus with a single threaded stud located on the upper basin assembly and with 2 screws mounted under the base assembly on the frame.
   - Once attached the computer can be placed on the mount, align the four holes and attach with the 4 screws.
   - Replace the back panel.

   Computer Cables

   - Locate the computer cables in the computer box.
   - There are 4 cables: ASI serial cable, PS2 mouse cable, USB keyboard cable, and computer power cable.
   - Attach the cables to the computer and to the marked locations on the back of the ADVANTAGE Plus.

Barcode Reader

- Locate the barcode reader box and the barcode reader mount located in the installation kit.
- Remove the right service cover and locate the 4 holes on the upper edge of the cover. Carefully remove the gasket material along the edge and place it back once the barcode reader mount is attached.
- Align the 4 holes on the mount with the holes on the cover and attach using the screws, washers and nuts found in the barcode reader box.
- Attach the USB extension cable to the front of the barcode reader mount, and then connect cable to the computer.
- Connect the barcode reader to the USB connection on the mount and place the bar code reader on the cradle.

Air Compressor (optional)

- If the optional air compressor is used, install per the instructions located in the air compressor box.

Vapor Management System (optional)

- If the optional vapor management system is used, install per the instructions located in the vapor management system box.

Printer

- If the optional printer is used, install per the instructions located in the printer box.

3. Water Supply/Pre-Filter

- The pre-filter should be already mounted and plumbed.
- Verify that the correct filters are installed.
- Connect the supply line located in the pre-filter box to the output of the pre-filter and to the left/right barbed fitting water inputs on the back of the ADVANTAGE Plus, secure with the included clamps.
- Locate the valve control cord located in the pre-filter box. Connect it to the pre-filter valve assembly and to the location marked “Sanitize” on the back of the ADVANTAGE Plus.
- Locate the disinfectant line in the pre-filter box. Connect it to the barbed fitting on the pre-filter valve assembly and the gray quick-connect fitting on the back of the ADVANTAGE Plus.

4. **Drain**
    - Locate the drain hose located in the installation kit and attach the fitting to the drain fitting on the back of the ADVANTAGE Plus.
    - Place the open end of the drain hose into the facility drain. Ensure that the line slopes downwards and there are no restrictions. The hose can be cut if needed.
    - Having some slack in the drain hose may aid in the movement of the ADVANTAGE Plus for service.
5. **Air**
    - If using house air, the installation location should already be fitted with a suitable air line based on the pre-installation criteria. Attach the hose to the barbed fitting located on the back of the unit, secure with a clamp.
    - If the optional air compressor is to be used, it should already be connected from a previous step.
6. **Electrical**
    - Locate the electrical power cord located in the installation kit.
    - Measure the voltage at the wall receptacle, it must read 240 VAC (± 10%); confirm it is a GFI protected outlet.
    - Connect the cord to the main electrical connection located on the lower back panel of the ADVANTAGE Plus. Plug the other end into the wall receptacle.
7. **Ventilation**
    - If the customer is not going to connect the ADVANTAGE Plus to an external fume extraction system, the black cap on the vent on the back of the ADVANTAGE Plus should remain in place and the internal fan remains turned off.
    - If the facility has supplied a 4” flexible duct connected to an external vent, the black cap can be removed and the internal fan turned on. The flexible duct can then be attached to the vent connection with a clamp.
    - If the facility is using the optional vapor management system it should already be installed in a previous step.

8. Placement

- When all the connections are completed move the ADVANTAGE Plus to its final location and ensure a good fit. Turn on the water, air and the computer. Maker sure there are no leaks and the computer powers up.
- Load the containers of Rapicide PA, Part A and Part B ito the ADVANTAGE Plus. Connect the disinfection blocks in both basins, they are located in the installation kit. Fill the Alcohol and Detergent reservoirs, as needed.

COMPUTER

The computer will boot up with the ADVANTAGE Plus Server application and the LIO application. Open the MDS folder on the desktop and start the Management application. When asked for a login name, select “SysAdmin” from the pull down menu. Call Medivators Technical Support for the password of the day.

NOTE: The computer comes with a mouse and keyboard which can be used to ease the data entry that follows.

User Entry

As part of the pre-installation the customer supplied a list of Users on the Site ID Form. Confirm the list with the operator and add/remove as needed.

Users

- Enter the User information based on the list supplied by the customer. Turn the Edit function back on and enter the information below for each user:

1. Name: User name
2. Login: Login name
3. Group: Enter group type assigned to user
4. Barcode: Enter barcode number assigned to user
5. Tag: Leave blank
6. Pers Code: Leave blank
7. Password: Enter personal password, not required

- Turn the edit function off to save the information.
- The barcode labels are located in the installation kit.

- The group type determines the level of access the user will have to the ADVANTAGE Plus systems:
  1. Operator/Hospital: Day to day users; lowest user level of system access, scopes, changing disinfectant
  2. Maintenance/Hospital: Biomed; filter changes, basic maintenance
  3. Administrator/Hospital: Nurse manager; highest user lever of system access, user/scope entry, data management

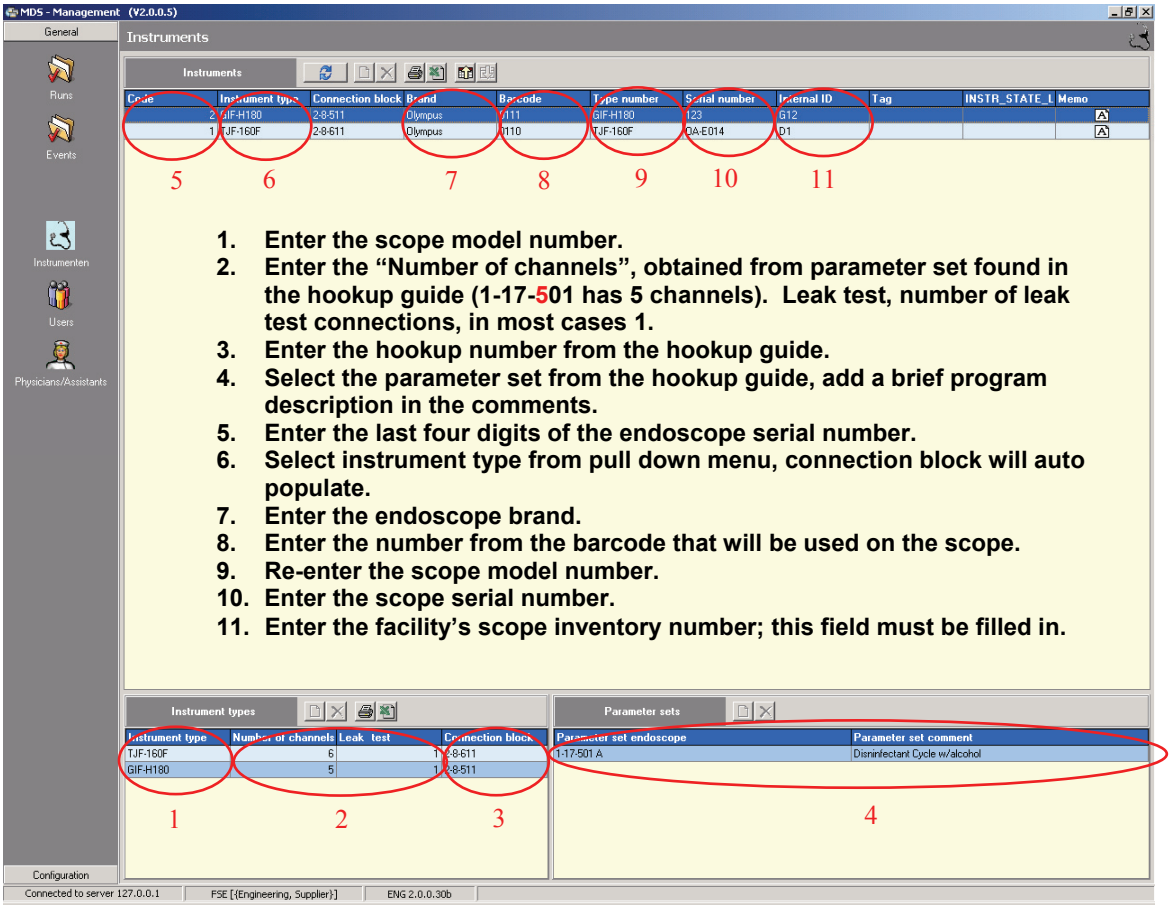
Parameter Sets

Install the correct Parameter Set for each endoscope type. The Parameter Sets selected will depend on the scope, disinfectant and cycle type (Wash/Detergent, Alcohol). The Parameter Sets do not come preinstalled on the ADVANTAGE Plus. To obtain the correct Parameter Sets please contact Medivators Technical Support. This must be done before Endoscope Entry.

Endoscope Entry

As part of the pre-installation the customer supplied a list of Endoscopes on the Site ID Form. Confirm the list with the operator and add/remove as needed.

- In the Management application select the Instrument screen. Enter the Endoscope information based on the list supplied by the customer. Turn the Edit function back on and enter the information below for each endoscope:


MDS - Management (V2.0.0.5)
General
Instruments
Runs
Events
Instrumenten
Users
Physicians/Assistants
Configuration
Instruments
Code
Instrument type
Connection block
Brand
Barcode
Type number
Serial number
External ID
Tag
INSTR_STATE_L
Memo
GIF-H180
2-8-511
Olympus
0111
GIF-H180
123
G12
TJF-160F
2-8-611
Olympus
0110
TJF-160F
QA-E014
D1
5
6
7
8
9
10
11
1. Enter the scope model number.
2. Enter the "Number of channels", obtained from parameter set found in the hookup guide (1-17-501 has 5 channels). Leak test, number of leak test connections, in most cases 1.
3. Enter the hookup number from the hookup guide.
4. Select the parameter set from the hookup guide, add a brief program description in the comments.
5. Enter the last four digits of the endoscope serial number.
6. Select instrument type from pull down menu, connection block will auto populate.
7. Enter the endoscope brand.
8. Enter the number from the barcode that will be used on the scope.
9. Re-enter the scope model number.
10. Enter the scope serial number.
11. Enter the facility's scope inventory number; this field must be filled in.
Instrument types
Instrument type
Number of channels
Leak test
Connection block
TJF-160F
6
1
2-8-611
GIF-H180
5
1
2-8-511
1
2
3
Parameter sets
Parameter set endoscope
Parameter set comment
1-17-501 A
Disinfectant Cycle w/alcohol
4
Connected to server 127.0.0.1
FSE [{Engineering, Supplier}]
ENG 2.0.0.30b

Attach the barcode to the corresponding endoscope. Prep the surface with alcohol and place the barcode on a flat surface on the scope control handle so it is visible when placed in the ADVANTAGE Plus basin. See image below.

- For more detailed instructions refer to the User Manual.

System Parameters

The system parameters located in the Management Application have a number of user options the customer needs to decide whether they want to use. Adjust the system parameters as needed and be sure to save the changes. Record changes in Installation Checklist.

- Chemical Name: Enter tRapicide PA
- Location: Enter the facility name
- Request Patient Data at beginning of cycle: Enter yes or no
- Request Specialist (Doctor) Data at beginning of cycle: Enter yes or no
- Request Assistant Data at beginning of cycle: Enter yes or no
- Use Alcohol: If using alcohol set to yes, select parameter set accordingly
- Use Detergent: If using detergent set to yes, select parameter set accordingly.

Note: If the Specialist (Doctor) Data is going to be used a barcode needs to be assigned. The barcode and the Doctor's name can be conveniently placed on the barcode reader mount.

General

In the Windows control panel verify the correct date and time, adjust if necessary. The audible error alarm on the ADVANTAGE Plus uses the Window application. Again in the control panel verify the sound and adjust if necessary.

INSTALLATION VERIFICATION

Water Temperature Calibration

In the LIO application under Program Selection, run the Water Sample Utility. Ensure the Disinfection Blocks are in place. Once the lid opens automatically measure the temperature of the incoming water with a thermometer. It should measure 95ºF (35ºC), if not adjust the external mixer valve until the desired temperature is reached. Press "START" to finish the process.

Waterline Disinfect

In the LIO application, run the Waterline Disinfect Utility.

Test with scopes

Place an endoscope in both basins and run a complete cycle. Ensure the cycle completes without any errors.

DATA BACKUP

After the installation is complete go to the Management application and export the system parameters, user information, physician/assistant and endoscope information. Close the LIO, Server and Management applications and run the Backup utility located in the "MDS" folder on the desktop. Open "My Computer" on the desktop and open the C: drive. In the "Program Files" folder locate the "MDS" folder. Place a blank writable CD into the CD Drive, and save the entire "MDS" folder to the CD. Label the CD with ADVANTAGE Plus Backup: SN# Keep with the ADVANTAGE Plus and inform the customer the CD must remain with the ADVANTAGE Plus.

ADVANTAGE PLUS SITE REQUIREMENTS AND INSTALLATION INSTRUCTIONS

This checklist should be used to ensure the proper installation of the ADVANTAGE Plus Automated Endoscope Reprocessor. Upon completion of the installation, the unit will be ready for operation.

ADVANTAGE PLUS INSTALLATION CHECKLIST

Unpacking	All packages are accounted for	
Assembly	All installation specifications have been met	
User Entry	All user information entered, barcodes assigned	
Endoscope Entry	All endoscope information entered, barcodes assigned	
System Parameters	System parameters checked and changes noted below	
Parameter Sets	Parameter sets inputted and changes noted below	
General	Date and time correct, sound checked	
Water Temperature Calibration	Water temperature set to 95ºF (35ºC)	
Test with Scopes	Cycles run with scopes, completed without any errors	
Waterline Disinfect	Waterline disinfect performed	
Data Backup	Data backed up; CD left with ADVANTAGE	
Remote Access	Internet access available	
System Parameter Changes		
Parameter Set Changes		
Notes		

Manufactured in the USA by:

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